



soluble α -Klotho Assay Kit (96Well)

Aging Regulator – Human soluble α -Klotho

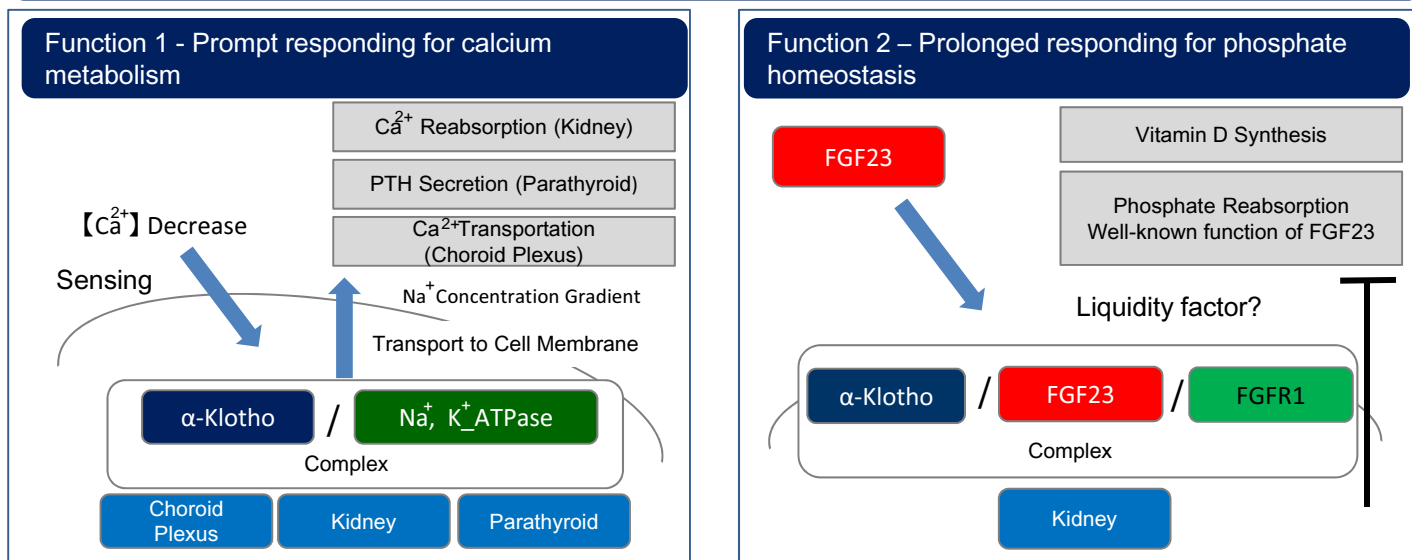
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Product No.	Product name	Measurement range (pg/mL)	Measuring samples
27998	Human soluble α -Klotho Assay Kit - IBL	93.75 – 6,000	Human serum, Plasma or Urine

α -klotho was identified as an extremely down-regulated gene in the genetic mutation mouse (Klotho mouse) of which phenotype is very similar to various symptoms of human aging. Then, the sequences of α -Klotho genes have been identified in various species including human based on the one of mouse. α -Klotho protein is a 130kDa, one-transmembrane protein and its expression is confirmed in the kidneys and the parathyroid glands. In recent years, it has become clear that α -Klotho is an important molecule within a living organism regulating the metabolism of mineral such as calcium and phosphorus. Therefore, it is considered that, in Klotho mouse, early aging-like symptoms are induced by impaired mineral homeostasis caused by decreased expression of α -Klotho. Meanwhile, it is reported that the long N-terminal extracellular domain which comprises the major portion of sequence of α -Klotho protein is released free into blood by shedding. However, there are may unclear points about functions and changes in concentration of free (soluble) α -Klotho protein, so it has been required to develop the measurement system of α -Klotho. Human soluble α -Klotho protein in human blood and urine can be measured by this assay kit.

α -Klotho is a key player that integrates a multi-step regulatory system of calcium metabolism and phosphate homeostasis.

Mechanism for Two Functions of α -Klotho



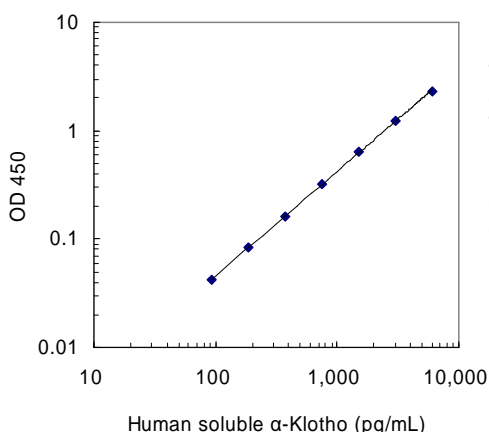
References

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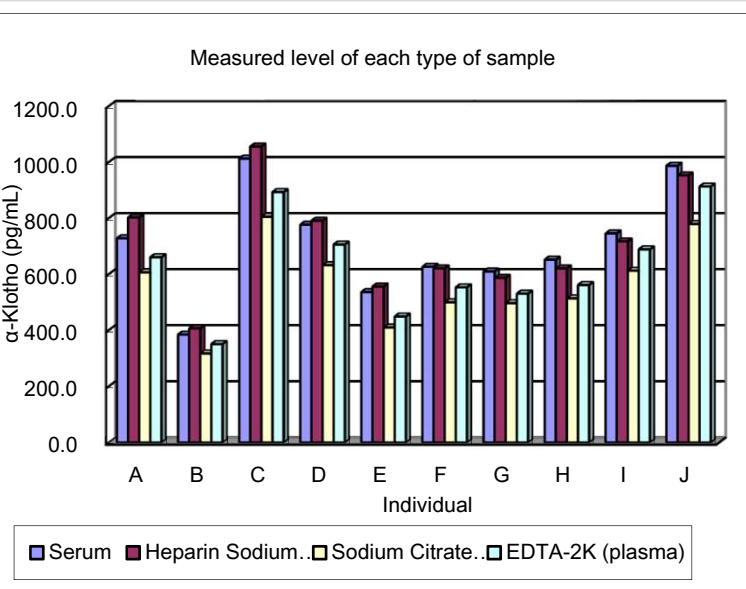
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Performance and characteristics of #27998 Human soluble α -Klotho Assay Kit – IBL

Typical Standard Curve



Comparison measured figure of various type of human blood samples.



The chart shows comparison data of human serum and 3 different types of plasma samples which were collected by various types of anticoagulant.

Repeatability on a sample plate

Measured value (pg/mL)	SD (pg/mL)	CV (%)	n
2968.78	92.26	3.1	24
757.34	20.65	2.7	24
186.64	6.62	3.5	24

Repeatability data on a sample plate using high, medium and low concentrated Klotho samples prepared based on human serum.

Repeatability among 5 times of individual assay

Measured value (pg/mL)	SD (pg/mL)	CV (%)	n
2903.01	85.44	2.9	5
706.32	45.72	6.5	5
165.47	18.82	11.4	5

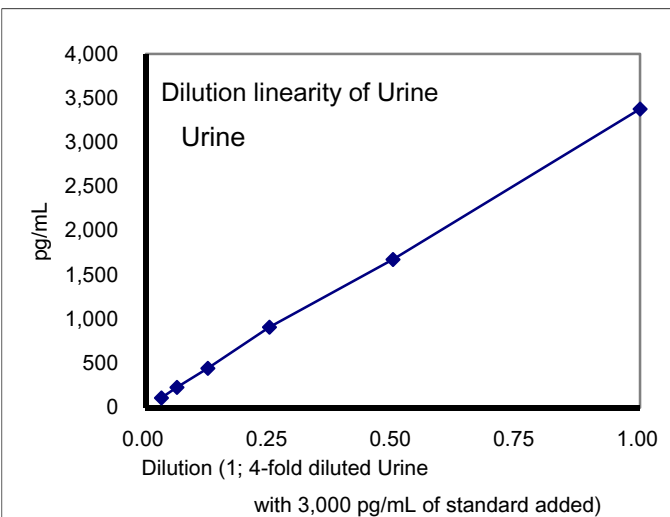
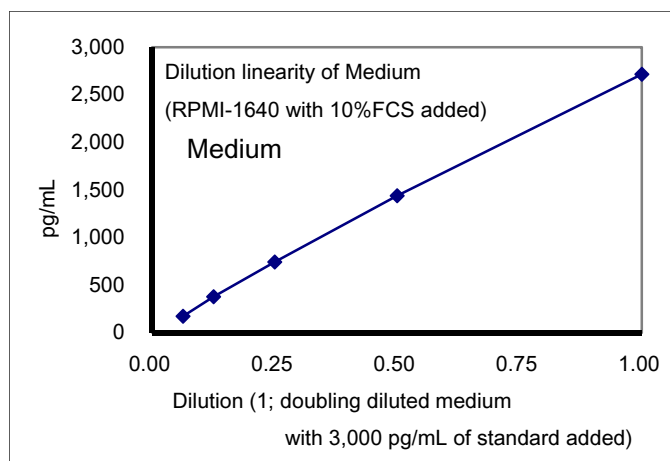
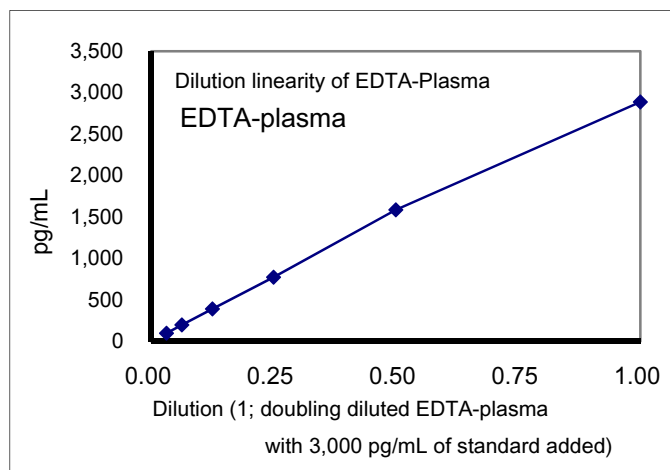
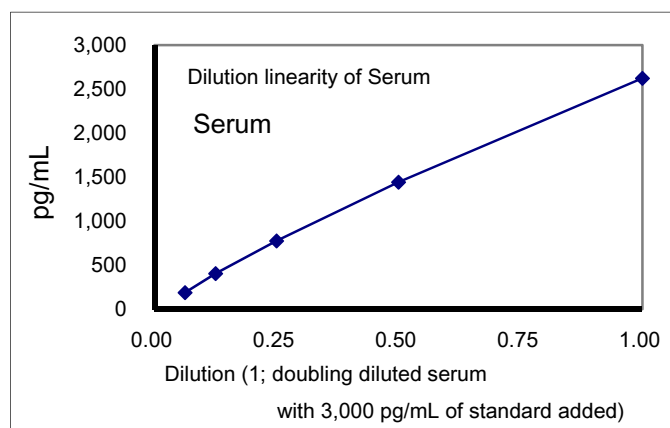
Repeatability data among 5 times of individual assay using high, medium and low concentrated Klotho samples prepared based on human serum.

Specificity

Measured substances	Cross reactivity (%)
Human α -Klotho	100
Human Osteopontin	< 0.1
Human VEGF (165)	< 0.1
Human PDGF	< 0.1

Several standard proteins which are used in IBL kit other than human Klotho were measured by this kit and confirmed there were no cross-reaction found with these proteins.

Dilution Linearity



The charts show linearity data of high concentration Klotho samples prepared with standard solution added to each specimen and then diluted by EIA buffer.